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AUTHOR Purdie, Sharon I.; And Others
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ABSTRACT

Second and fifth graders viewed one of two edited versions of a commercial action-adventure television program portraying an aggressive action associated with antisocial motives and punishing consequences. The versions differed only in the amount of time elapsing between the focal action and the motives for that action. Children's comprehension of explicit events in the program and inferences about relations among them (e.g., causality) were assessed using a recognition-memory measure. When motive information was portrayed in close proximity to the aggressive action (proximal-motive version), both second and fifth graders understood the explicit motive and action details and implicit relations between them better than they did when the motives and aggression occurred in different scenes (distal-motive version). Even when children understood the explicit motive and action information, those in the distal-motive version were less likely than those in the proximal-motive version to infer the motive-action relationship. Children in the distal-motive version were less likely than those in the proximal version to evaluate the aggressor negatively. Fifth graders comprehended better than second graders in both versions and were also more likely to infer implicit relations. Additional data indicated that the younger viewers' difficulties were not due to forgetting or interference effects in the course of viewing. Results are discussed in terms of characteristics of children's processing of audiovisual narratives and implications for social-learning and behavioral effects of televised dramatic content. (Author/RH)

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Children's Processing of Motive Information in a Televised Portrayal

Sharon I. Purdie, W. Andrew Collins, & Sally D. Westby

University of Minnesota

The problem I want to discuss involves developmental aspects of children's comprehension and evaluation of the content of the types of television programs frequently viewed by school-age children. Even though productions such as family dramas, situation comedies, and action-adventure programs are produced for an adult audience, many children and adolescents include these in their television viewing schedule. In our research program at Minnesota, we have focused on their understanding of the social roles, behaviors, and attitudes portrayed in these programs.

Let me present an example to clarify the issue we are dealing with. Often in an action-adventure series such as the FBI, Ironsides and the like, the focal act involves some type of aggression. Linked to this aggression is information about the reasons for this act (the motives), results of this act (the consequences), and the characters who perform it. However, these motive and consequence cues are often portrayed subtly and -- directly related to the study I will discuss today -- are separated from each other so that the viewer must infer that a character performed an action for the reasons mentioned some time earlier in the drama and that what occurred after the action was a result of it. Our questions have addressed how children integrate the information from different time points in the program so that the focal aggression comes to be understood -- or misunderstood -- in particular ways.

At this point, we are unable to present a detailed model of the process, but we have been able to determine certain characteristics of children's abilitie at different ages to recognize information that involves some type of integration of plot events. Not only are second grade children often unable to comprehend essential explicit plot details, they are less likely than preadolescent

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viewers to infer pertinent relations (e.g., causality) among them (Collins, Wellman, Keniston, & Westby, 1978). One reason for younger children's difficulties with this task appears to be separations that commonly occur among plot events so that to comprehend adequately, children must both hold relevant information in memory and resist interference from extraneous content. The present study was designed to examine further the role of temporal separation in children's processing of certain social cues in televised social dramas. Specifically, the focus is the effect of temporal proximity of motive cues to the subsequent aggression.

The stimuli were two versions of an edited television program. The plot involves a man who attempts to search for his former wife to kill her to prevent her from presenting damaging testimony against him in a kidnapping case. He finds the house where she is hiding and shoots at it -- and her. His goal is thwarted by the arrival of law officers and he is taken away in handcuffs In one version (distal-motive version), the protagonist's motives and aggression are separated from each other by a period of time and occur in different settings This means that in order to understand why the action was undertaken, the viewer must remember the relevant motive information from a prior scene and then infer the relation between the previous information and the present aggression. In the other version (proximal-motive version), the motive and aggression information are presented adjacent to each other in the same scene. Children viewing this version still must infer the relation between the motive and aggression, but the two crucial pieces of information are contiguous.

We showed one of the two versions of the program to 207 randomly selected second and fifth grade girls and boys. Within viewing condition and grade, we further randomly assigned children to see the program without interruption, or to be interrrupted at one of three points: before the motive information,

before the aggression, or immediately after the aggression. Interrupted children were tested on comprehension up to the interruption point and were asked to evalute the goodness or badness of the character. In Table 1, the arrow denotes the points at which the initial-comprehension and evaluation measures were taken. For example, the before motive group was interrupted and asked comprehension and evaluation questions about the program before they saw the motive portrayal. We questioned these children about the

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Insert Table 1 about here

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remainder of the program at the end. Children who were not interrupted during viewing were questioned only after they had viewed the entire program.

Our comprehension measure consisted of recognition items about content explicitly portrayed in a single scene and information that is only implicit about relations between explicit events. For instance, we asked about the unstated inferred causal relations between scenes thatwere necessary for comprehension of the plot. We also asked about the single explicitly presented events that were necessary to know in order to make the crucial inferential connections. A typical explicit item was: During the storm, Charlie and his partner come out of the bushes and ... Charlie shoots at the house. A typical implicit or inference item was: Charlie shoots at the house ... to keep Gloria from telling. A story analysis, in which the essential events and the relations between them were formally specified, was used to assure completeness of the question set.

Let me now turn to the results. As in other studies done by people in our research group, fifth graders recalled more of the explicit content (88%) than second graders (64%) and were also able to make the correct inferences more often than younger children. Second graders comprehended about half of the items about implicit or inference information while fifth graders

understood about 80% of the items. Expanding previous studies, children's comprehension when they were interrupted during viewing was no better than the comprehension of children who were asked the same questions later in the program or after viewing. That is, age-related comprehension difficulties appear not to be attributable to forgetting or to interference from information presented later.

Of course, the most pertinent comprehension data for this study have to do with comprehension of the motive-aggression relationship because we manipulated the organization of these cues. Viewers at both grades who saw the motive and aggression cues next to each other understood the inferences about the motive-aggression relationship better than children who saw the cues apart from each other. The overall mean for those who saw the separated version was 57% compared to 70% for the other group. Second graders who saw the cues adjacent to each other also understood the explicitly presented motive and action details better than the group who saw the cues far apart. Viewing condition had little effect on questions about other parts of the program. That is, although close proximity of motive to aggression improved children's comprehension of inferences related to these events, it did not generalize to better understanding of all inferences.

We also found that our manipulation facilitated integration of information about the character's motives and aggression. Children's responses to specific items in our recognition measure indicated whether they knew the two specific discrete scenes or <u>premises</u> on which each inference item was based. From this information, we determined whether knowledge of the requisite discrete pieces of information was associated with correct answers to the inferences about the motive-aggression relationship. We did this by calculating the probability that a child would make the correct inference, given that both

relevant premises were known or one or neither was known at the time of testing. Proximal-motive viewers knew both premises for more of the items than distal-motive viewers (71% versus 61%). In Figure 1, the plain bars represent the probability that inference items will be answered correctly, given that children answered both discrete premises correctly. The striped bars show the mean probability of correct inferences at each age, given that fewer than two of the premises were answered correctly. When children knew both of the premises

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Insert Figure 1 about here

(the plain bars in the Figure), proximal-motive viewers answered the inference items correctly in 69% of the cases while those in the distal-motive condition made the appropriate inference in only 49% of the cases. Apparently, organizing the narrative so that the relevant premises are not separated from each other by time or setting affects correct inference making both by facilitating memory for explicit cues and also by increasing the likelihood that the connection between the two discrete cues will be made correctly.

Results of the condition probability analysis also indicate the fifth graders knew both premises for more of the items than second graders. In addition the liklihood of correctly integrating motive and aggression information was higher for the older children. Fifth graders answered correctly in 78% of the cases compared to 40% for the younger children. This is shown in the plain bars in Figure 1. Apparently, for fifth graders, if both pertinent premises are not remembered, it is only by chance that the correct inference will be made. In contrast to the older children's competence at both tasks, second graders are deficient at both skills -- that of remembering the pertinent premise information and that of linking these two premises to make the correct inference. Evidence for these deficiencies comes from the fact that the probability of answering

an inference correctly was the same fairly low figure (40%), regardless of the number of premises known.

Although the place at which children were interrupted during the program did not affect their comprehension of the plot line, it did influence their evaluations of the goodness or badness of the aggressor. Children's evaluations made immediately after the aggression was portrayed or at the end of the program were more negative than those of participants who evaluated the character before they viewed the aggression.

Additional analyses were computed for evaluations made at each interruption point -- before the motive had been portrayed -- second graders evaluated the character similarly to fifth graders, but at the other two interruption points, they evaluated him less negatively than the older children. No-interruption second graders rated the character as negatively as no-interruption fifth graders. Apparently, the negative motives (which were presented after the first interruptio point) affected fifth graders more than second graders, who were more affected by portrayed consequences (which appeared after the third interruption point). At both grades, however, no-interruption proximal-motive viewers evaluated the character more negatively than no-interruption distal-motive viewers.

These results further specify the kinds of difficulties children experience in comprehending television content. Children had less difficulty understanding the motive-aggression relationship when the relevant cues were presented adjacent to each other, rather than in two different scenes. Apparently, when the motive and action cues are not temporally contiguous, the additional processing demands imposed upon the young viewer -- in this case, having to keep relevant information in memory while at the same time resisting interference from extraneous information -- cause children to have more difficulty understanding this relationship. In addition, when these important cues were presented adjacent to

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each other, children's evaluations of the modeled actions were more mature.

The finding that young viewers are more likely to infer relationships among cues when cues are adjacent to, rather than separated from, each other has at least two implications. First of all, greater attention by producers to the temporal contiguity of related events, as well as other presentation factors, may enable them to make television portrayals that are more comprehensible to young viewers. Secondly, knowledge of some of the causes of children's errors may provide a basis for teaching younger viewers how to understand complex programs more accurately. It may be possible to develop a method of teaching viewing strategies that encourages younger children to ask themselves the implicit questions that older children appear to ask themselves spontaneously while watching.

Table 1.

The Interruption Procedure:

Points at Which Initial Comprehension and Evaluation Measures Are Taken

Time Line of the Plot

I. Before-motive Group	↓	Motive portrayal	Aggressive Action	Consequences
II. Before-action Group		Motive portrayal	↓ Aggressive Action	Consequences
III. After-action Group		Motive portrayal	Aggressive Action	↓ Consequences
IV. No interruption Group		Motive portrayal	Aggressive Action	Consequences ↓

↓ denotes place of interruption

Figure 1. Mean Percent of Correct Motive Inferences by Availability of Premise Information